

Amendment under 37 C.F.R. § 1.114 (c)
U.S. Application No. 10/049,830

REMARKS

Claims 1-44 have been examined. Claims 26, 37 and 40-43 have been rejected under 35 U.S.C. § 103(a). Also, the Examiner has indicated that claims 1-25, 27-36, 39 and 44 contain allowable subject matter.

I. Preliminary Matters

Applicant respectfully requests the Examiner to provide initialed PTO 1449 forms, in the next Office Action, for the Information Disclosure Statements that were filed on August 26, 2004, November 19, 2004, and November 24, 2004.

II. Rejections under 35 U.S.C. § 103(a) in view of U.S. Patent No. 6,155,664 to Cook (“Cook”) and U.S. Patent No. 6,044,694 to Anderson et al. (“Anderson”)

The Examiner has rejected claims 26, 37 and 40-43 as allegedly being unpatentable over Cook in view of Anderson.

A. Claim 26

Applicant submits that claim 26 is patentable over the cited references. For example, claim 26 recites that the piezoelectric device for detecting ink within the container body is positioned slightly below an initial ink level which corresponds to a level of the ink in the container body before bringing the cartridge into use. As disclosed in the non-limiting embodiments of the specification, the positioning of the piezoelectric device, before the ink cartridge is brought into use, can disclose if there are any defects during manufacturing of the ink

cartridge, or if the ink cartridge has sat for too long such that the quality of the viscosity of the ink is decreased or the ink has evaporated off, etc. (pg. 13, line 22 to pg. 14, line 13).

The Examiner acknowledges that Cook does not disclose the above feature, but contends that Anderson does (pg. 1 of Office Action). In particular, the Examiner maintains that the benders 50 and 54 of Anderson disclose the claimed piezoelectric device (Fig. 2). However, the benders 50 and 54 are provided on a mixing vessel 30 that is remotely located from the printhead 40 (col. 3, lines 56-57 and col. 4, lines 4-15). The mixing vessel 30 is not an ink cartridge that is configured to be detachably mounted on an ink jet recording apparatus, as recited in claim 26. Accordingly, Anderson fails to cure the deficient teachings of Cook.

In addition, the primary ink reservoir 4 of Cook is not an ink cartridge, but rather is a type of sub-tank that is designed to be refilled by the remote secondary ink reservoir 10, via ink supply lines 6 and 7, when the printhead is in use (Fig. 1; col. 5, lines 47-53). Therefore, even if combined, the teachings of the Cook and Anderson references would fail to teach or suggest the features recited in claim 26.

Accordingly, Applicant submits that claim 26 is patentable over the cited references, and respectfully requests the Examiner to reconsider and withdraw the rejection.

B. Claims 37, 40 and 41

Since claims 37, 40 and 41 have been canceled, without prejudice or disclaimer, Applicant submits that the rejection of such claims is now moot.

C. Claim 42

Applicant submits that claim 42 is patentable over the cited references. For example, claim 42 recites that the vibrating region of the piezoelectric device extends from a liquid level of the liquid, before the liquid is consumed, to a bottom surface of the liquid container. A non-limiting embodiment of the claimed vibrating region is shown in Fig. 5 of the present Application.

Neither the Cook nor Anderson references disclose a vibrating region that extends from a liquid level to a bottom surface of the liquid container. In Cook, various horizontally positioned sensors 28a-e and 30a-b are shown, but none of the vibrating regions of the individual sensors extends all the way to the bottom of the ink reservoirs 4 and 10 (Fig. 1). Further, similar to Cook, the Anderson reference merely discloses multiple benders 50, 52, 54, 56 and 58 that are horizontally positioned in the mixing vessels 30, 34 and 36 (Fig. 2). However, none of the benders have a vibrating region that extends all the way to the bottom of the vessels.

In view of the above, Applicant submits that the cited references fail to teach or suggest the features of claim 42. Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw the rejections.

D. Claim 43

Since claim 43 contains features that are analogous to the features recited in claim 26, Applicant submits that such claim is patentable at least by virtue of its dependency.

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III. Allowable Subject Matter

As stated above, the Examiner has indicated that claims 1-25, 28-36 and 39 are allowed, and claims 27 and 44 contain allowable subject matter, but are objected to as being dependent upon a rejected base claim.

Since claim 44 is dependent upon claim 10, and the Examiner has indicated that claim 10 is allowable, Applicant submits that claim 44 is patentable at least by virtue of its dependency. Also, since a portion of claim 44 contained duplicate subject matter as already recited in claim 10, Applicant canceled the duplicate portion from the claim. Such amendment does not require further search and/or consideration, and therefore, it is respectfully requested that such amendment be entered.

IV. Conclusion

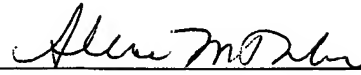
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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Respectfully submitted,



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